In the Claims

CLAIMS

Claims 1-35 (Canceled).

36. (Previously presented) A method of forming a structure over a semiconductor substrate, comprising:

forming a silicon-dioxide-containing layer physically against the semiconductor substrate;

exposing the silicon-dioxide-containing layer to an activated nitrogen species formed from plasma conditions to provide nitrogen within the silicon-dioxide-containing layer, substantially all of the nitrogen within the silicon-dioxide-containing layer being spaced from the substrate;

after the exposing to provide the nitrogen within the silicon-dioxide-containing layer, forming a first layer comprising conductively doped silicon physically against the silicon-dioxide-containing layer, the first layer comprising a first conductivity type; and

forming a second layer comprising conductively doped silicon over the first layer, the second layer comprising a second conductivity type that is different from the first conductivity type.

37. (Previously presented) The method of claim 36, wherein the silicon-dioxide-containing layer is at least about 40 angstroms thick, and wherein substantially all of the nitrogen is within the top 30 angstroms of the silicon-dioxide-containing layer.

38. (Previously presented) The method of claim 36, wherein the silicon-dioxide-containing layer is at least about 40 angstroms thick, and wherein substantially all of the nitrogen is within the top 10 angstroms of the silicon-dioxide-containing layer.

39. (Previously presented) The method of claim 36, wherein an entirety of the nitrogen within the silicon-dioxide-containing layer is spaced from the substrate.

40. (Previously presented) The method of claim 39, wherein the silicon-dioxide-containing layer is at least about 40 angstroms thick, and wherein substantially all of the nitrogen is within the top 10 angstroms of the silicon-dioxide-containing layer.

41. (Previously presented) The method of claim 39, wherein the silicon-dioxide-containing layer is at least about 40 angstroms thick, and wherein no measurable nitrogen is below the top 30 angstroms of the silicon-dioxide-containing layer.

Claim 42 (Canceled).

43. (Previously presented) A method of forming a structure over a semiconductor substrate, comprising:

forming a silicon-dioxide-containing layer physically against the semiconductor substrate, the silicon-dioxide-containing layer having an upper portion and a lower portion, the upper portion being spaced from the semiconductor substrate by the lower portion;

after forming the silicon-dioxide-containing layer, exposing the silicon-dioxide-containing layer to nitrogen ions to provide nitrogen within only the upper portion of the silicon-dioxide-containing layer; and

after providing the nitrogen within only the upper portion of the silicon-dioxide-containing layer, forming conductively doped amorphous silicon physically against the upper portion of the silicon-dioxide-containing layer.

44. (Previously presented) The method of claim 43, wherein the lower portion is about 10 angstroms thick.

45. (Previously presented) The method of claim 43, wherein the upper portion is about 10 angstroms thick.

Claims 46-48 (Canceled).

49. (Previously presented) A method of forming a structure over a semiconductor substrate, comprising:

providing a semiconductor substrate comprising a first region and a second region that is different from the first region;

forming a silicon-dioxide-containing layer physically against only the first region of the semiconductor substrate, the silicon-dioxide-containing layer comprising an upper surface;

exposing the silicon-dioxide-containing layer to nitrogen atoms, and during the exposing, the nitrogen atoms comprising a higher energy state than their ground state to provide nitrogen primarily within the upper surface of the silicon-dioxide-containing layer; ~~and~~

forming conductively doped silicon physically against the upper surface of the silicon-dioxide-containing layer and leaving the second region of the semiconductor substrate exposed; and

oxidizing the conductively doped silicon and the second region of the semiconductor substrate.

50. (Previously presented) The method of claim 49, wherein the silicon-dioxide-containing layer further comprises an upper portion and a lower portion, the upper portion including the upper surface and being spaced from the substrate by the lower portion, and wherein the providing of the nitrogen comprises an entirety of the nitrogen within the upper portion.

51. (Previously presented) The method of claim 49, wherein the silicon-dioxide-containing layer further comprises an upper portion and a lower portion, the upper portion including the upper surface and being spaced from the substrate by the lower portion, and wherein the providing of the nitrogen comprises substantially all of the nitrogen within the upper portion.

52. (Previously presented) The method of claim 49, wherein the silicon-dioxide-containing layer further comprises an upper portion and a lower portion, the upper portion including the upper surface and being spaced from the substrate by the lower portion, and wherein the providing of the nitrogen comprises no measurable amount of the nitrogen within the lower portion.

53. (Previously presented) The method of claim 52, wherein the lower portion is about 10 angstroms thick.

54. (Previously presented) The method of claim 52, wherein the upper portion is about 10 angstroms thick.

55. (Previously presented) The method of claim 52, wherein the silicon-dioxide-containing layer is at least about 40 angstroms thick, and wherein the upper portion is about 10 angstroms thick.

56. (Previously presented) The method of claim 36 further comprising:

forming the activated nitrogen species comprising a first energy state; and

before the exposing, changing the first energy state of the activated nitrogen species to a second energy state that is different from the first energy state.

57. (Previously presented) The method of claim 56 wherein the second energy state is a lower energy state than the first energy state.

58. (Previously presented) The method of claim 36 further comprising forming a silicide layer over the conductively doped silicon.

59. (Previously presented) The method of claim 43 further comprising:

forming the nitrogen ions comprising a first energy state; and

before the exposing, changing the first energy state of the nitrogen ions to a second energy state that is different from the first energy state.

60. (Previously presented) The method of claim 59 wherein the second energy state is a lower energy state than the first energy state.

61. (Currently amended) The method of claim 43 further comprising forming a silicide layer over the conductively ~~amorphous~~ doped amorphous silicon.

62. (Previously presented) The method of claim 49 further comprising:

forming the nitrogen atoms comprising a first energy state; and

before the exposing, changing the first energy state of the nitrogen atoms to a second energy state that is different from the first energy state.

63. (Previously presented) The method of claim 62 wherein the second energy state is a lower energy state than the first energy state.

64. (Previously presented) The method of claim 49 further comprising forming a silicide layer over the conductively doped silicon.

65. (Previously presented) The method of claim 49 wherein the first region of the semiconductor substrate comprises a first conductivity type and the second region comprises a second conductivity type that is different from the first conductivity type.

66. (New) The method of claim 43 further comprising forming conductive material over the conductively doped amorphous silicon, the conductive material comprising a conductivity type that is different from a conductivity type of the conductively doped amorphous silicon.

67. (New) The method of claim 43 further comprising oxidizing the conductively doped amorphous silicon.

68. (New) The method of claim 43 wherein the forming of the conductively doped amorphous silicon comprises providing the conductively doped amorphous silicon over a first region of the semiconductor substrate, and further comprising:

exposing a second region of the semiconductor substrate, the second region being different from the first region; and

oxidizing the conductively doped amorphous silicon and the second region of the semiconductor substrate.